Introduction to Flash I

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CMSC434 TA
Fall 2008

The web – progression towards richer content

- Gopher and plain HTML.
- Embedded graphics.
- Animated graphics (animated GIFs).
- Sound.
- More active solutions: Flash / Javascript / DHTML, etc.
- Blurring of the distinction between in-browser to on-desktop.
Why Flash?

- A platform for development of Rich Internet Applications (RIAs), enabling
  - Animation
  - Interactivity
  - Audio/Video

- Commonly used to deliver
  - Advertisements (e.g., animated banners)
  - Streaming video (e.g., YouTube.com)
  - Games (e.g., FlashArcade.com)
  - Web Applications

Highlights in the history of Flash

- May 1996: FutureWave FutureSplash Animator
  - Invented by Johnathan Gay and Robert Tatsumi

- December 1996: Macromedia Flash 1.0
  - FutureSplash became **Flash**

- August 2000: Macromedia Flash 5.0
  - Introduced ActionScript 1.0

- April 2007: Adobe Flash CS3 Professional (Flash 9.0)
  - Supports ActionScript 3.0
  - Better integration with the Adobe product-line
Competing technologies

- Microsoft Silverlight
  - Based on the .NET framework
  - Does not natively support Linux
- Sun JavaFX
- AJAX (Asynchronous JavaScript and XML)
The Start page

Use this to create a new project.

The Flash workspace

- Toolbox
- Timeline
- Color Panel
- Stage
- Symbol Library
- Property Inspector
The Document Properties

Search engine metadata

The stage

on stage, visible

off stage, hidden
The timeline

Playhead dragging it is called scrubbing

Frames

Layers

Current Frame

Frame Rate
(in frames/sec)

Elapsed Time

Animation in Flash

- Suppose we have a layer with a single frame showing a ball
  - If we add a new frame, it will inherit the stage arrangement of the preceding frame
  - We can achieve an animation effect if we reposition the ball in consecutive frames
    - When played, it would seem as if the ball is moving

- But,
  - To get a smooth animation we would have to slightly adjust the position of the ball in every single frame
    - At 12fps, doing this manually would be a truly Sisyphean task

- Fortunately, we can leave all the hard work to Flash
  - Indicate the beginning and the end of the animation using keyframes
  - Let Flash interpolate every frame in between in a process called tweening
Tweening (1) Insertion point

Tweening (2) Dots represent Keyframes
Tweening (3)

Arrow indicates Tweened Frames

Tweened Images
(created automatically)

Layers (1)

Toggle for all layers

Show / hide
Lock (non editable)
Show as outline

Drag to reorder layers

Delete layer
Insert layer folder
Add motion guide
Insert layer
Layers (2)

- Any tweened object must be on its own layer.
  - Try to put each object in its own layer.
- Layers can be grouped in Layer Folders.
- Layers stack on top of each other.
  - You can reorder layers.
- Giving layers meaningful names makes it easier to find content.
- Special layer modes which can be changed by right-clicking on a layer
  - Guide layer
    - Can contain shapes, symbols, images, etc. to help align other elements
  - Motion Guide layer
    - A path to be followed by an object linked to it
  - Masking layer
    - Used to hide anything outside the shapes it contains

Layers (3): Creating a Motion Guide

- Create a layer named circle and draw a circle in it.
- Right-click the layer and choose Add Motion Guide.

- In the new guide layer, right-click frame 60 and choose Insert Frame (F5).
  - Draw a saw-like guide using the Line Tool.
- In the circle layer, right-click frame 60 and choose Insert Key Frame (F6).
  - Right-click anywhere between frame 1 and 60 and choose Create Motion Tween.
  - Go to frame 1 and snap the circle’s center to the left edge of the guide.
  - Go to frame 60 and snap the circle’s center to the right edge of the guide.
Layers (4): Creating a Motion Guide

- The result should be similar to this:

- Questions:
  - Why did we Insert Frame in frame 60 of the guide layer?
    - To make the guide available in all frames 1 through 60.
  - Why did we Insert Keyframe in frame 60 of the circle layer?
    - To designate the endpoint of the motion tween.

The library / symbols

- Reusable objects
- Types
  - Graphic symbols
    - Primarily static images
    - Use the main timeline
  - Button symbols
    - Use a four-frame timeline for each possible state (up, over, down, and hit)
  - Movieclip symbols
    - Use an independent timeline, a movie within a movie
    - Can contain code, other symbols, and audio tracks
    - Can be nested
    - Automatically loop
Audio

- Sound files can be imported into the library
  - Go to: File $\Rightarrow$ Import $\Rightarrow$ Import to Library...
  - Supports many popular sound formats such as .mp3 and .wav
- They can be dragged to the stage
- Many royalty-free sound effects available online
  - For example, www.freesound.org

Publishing

- You can publish your movie to create
  - the requisite SWF file
  - a skeletal HTML in which your movie is embedded
- Go to: File $\Rightarrow$ Publish
- You can also control the publisher setting by going to: File $\Rightarrow$ Publish Settings
Help Resources

- Built-in help
- Adobe Flash CS3 Resources
- Adobe Video Workshop
- Books
  - Foundation Flash CS3 for Designers / Tom Green, David Stiller
  - Adobe Flash CS3 Professional Bible / Robert Reinhardt, Snow Dowd